U.S. Antarctic Marine Living Resources Program

2011-2012 Weekly Field Reports
Cape Shirreff, Livingston Island

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Science Report

Seabirds

1. Peak hatch for gentoo penguins was on 25 December. Of our reproductive study nests, 24% of the nests are currently done hatching, 10% are partially hatched, 34% of nests have eggs, and 32% of the nests have failed.

2. The first chinstrap chicks were seen on 20 December. So far, 58% of the reproductive study nests still have eggs, 5% are done hatching, 5% are partially hatched, and 32% of the nests have failed.

3. Of the nests of known-aged gentoo penguins 41% are still incubating eggs, 28% are done hatching, 10% are partially hatched and 21% have failed. The failure rate of known-aged chinstrap nests has increased since last week to 47%. So far 43% of the known-aged chinstraps nests have not begun to hatch, 2% have initiated hatching and 8% have completed hatching.

4. Of the 20 brown skua pairs attending territories on Cape Shirreff 15% have not laid eggs yet this year. Four nests have failed.

5. We finished deploying 20 GLS on skua pairs on 22 December. These instruments will be recovered next year to look at where the pairs overwintered.

6. The first gull chicks were seen on 21 December. Of the 49 nests found active on the cape approximately 23% have hatched, 71% still have eggs and 6% have failed. Once the chicks hatch they are fairly mobile and cryptic which makes it sometimes difficult to figure out if the nest hatched or if the eggs or chicks were eaten.

Pinnipeds

7. As of yesterday all but two of our CCAMLR females have completed one trip to sea. Of those completing their first trip to sea, the mean trip duration was 2.91 days (s.d.: 1.73, n = 28, range: 0.40 - 6.83). One female has already completed five trips to sea. Last year by this time all our attendance females had completed their first trip to sea and the mean trip duration was 2.5 days (s.d.: 1.00; n = 30, range: 0.94 - 4.48).

8. We continue to census pups, live and dead, on the U.S. AMLR study site, which comprises approximately a quarter of total fur seal production. Our maximum count, however, was on 21 December, when we recorded a total of 1,063 pups (1,023 live and 40 dead).We are still observing an occasional pregnant female arrive and give birth; the last pup born at the Cape so far was on 26 December. Median date of pupping was 6 December.

9. We are still recording an occasional tagged female arriving for the first time. The last tagged female to arrive did so on 25 December. Thus far our return rate for the tagged adult female population is 78.7%. However, if only known-aged females ≤18 years old (n = 99) are considered, the return rate is 84.8%. The natality rate for females ≤18 years old is only 81.0%.

10. We had a female that carried an ARGOS PTT overwinter show up on 22 December. This brings the total number returned to 93% (13 of 14 females). The last to return is an important female, as she carried both an ARGOS PTT and a small geolocation light sensor on one of her flipper tags. This will add to our sample size for comparing the two methods of tracking over winter.

11. Of the 17 over winter deployments of geolocation light sensors, 15 have returned (88%). Twelve of the 17 have been recovered thus far.

12. Elephant seals are returning to molt in increasing numbers. Most of these have been juveniles and adult females. However, all but four of the 83 pups born on the Cape have left to sea. The total number of southern elephant seals in the last weekly phocid census was 227.

13. Leopard seals are increasing and we observe new animals tagged in previous years arriving almost daily. In the last Cape wide census on 23 December, ten leopards were observed hauled out. Every leopard observed has been photographed for photo ID studies. To date we have observed six tagged leopards returned and we have placed an additional four tags. We have recorded six sightings of untagged leopards. All untagged leopards are photographed and/or tagged.

14. Fur seal pups have just begun entering the water and we have observed our first leopard seal predation from the water. We have seen one leopard seal on several occasions take pups on land.

15. We collected our first sample of fur seal scats for studies of diet. We collect ten every week. All scats collected this week were composed primarily of krill.

Weather

16. We unfortunately lost our temperature sensor on our main weather station. We first malfunctioned on 22 December. We were able to replace the data with data from another temperature logger. The mean temperature was 1.8ºC and the high temperature for the week was 7.6ºC. The low was –0.6ºC. Winds were mostly westerlies this week with a mean wind speed of 7.6 mph and maximum of 38.0 mph. Total precipitation this week was 0.57 inches, resulting in total precipitation since 14 November of 1.47 inches. Sunrise and sunset are now 02:59 and 22:57. Mean daily solar radiation this week was 12,593 watts per sq. meter indicating less sun this week compared to last week.

Camp

17. Christmas Eve morning we awoke to a fresh blanket of snow over the Cape. Christmas day we had a warm and festive Christmas in our hut after finishing most of our research tasks mid-day. We smoked two turkeys and used up some of the last of our fresh produce that came with opening our camp.

18. Everyone at the Cape sends their thanks to all those family and friends that sent Christmas presents and cards with the camp opening in November. Their thoughtfulness made Christmas at the Cape that much more special. Best wishes to all for a Happy New Year from the AMLR Cape Shirreff crew.

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